

**IN THE SPECIFICATION:**

Please place on top of page 1 the following:

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(a) TITLE OF THE INVENTION.

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Please insert on page 1 , after the title the following:

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(b) CROSS-REFERENCE TO RELATED APPLICATIONS.

(not applicable)

(c) STATEMENT REGARDING FEDERALLY SPONSORED  
RESEARCH OR DEVELOPMENT.

(not applicable)

(d) THE NAMES OF THE PARTIES TO A JOINT RESEARCH  
AGREEMENT

(not applicable)

(e) INCORPORATION-BY-REFERENCE OF MATERIAL SUBMITTED  
ON A COMPACT DISC (See 37 CFR 1.52(e)(5) and MPEP 608.05.  
Computer program listings (37 CFR 1.96(c)), "Sequence Listings" (37 CFR  
1.821(c)), and tables having more than 50 pages of text are permitted to be  
submitted on compact discs.) or REFERENCE TO A "MICROFICHE  
APPENDIX" (See MPEP § 608.05(a). "Microfiche Appendices" were  
accepted by the Office until March 1, 2001.)

(not applicable)

**(f) BACKGROUND OF THE INVENTION.**

**(1) Field of the Invention.**

The invention is directed to radio antennas suitable for transmitting and receiving.

**(2) Description of Related Art including information disclosed under 37 CFR 1.97 and 1.98.**

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Please insert on page 2, after the first paragraph:

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**(g) BRIEF SUMMARY OF THE INVENTION.**

**(i) Purposes and Preparatory Steps of the Invention**

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Please insert on top of page 3 the following:

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**(ii) Brief Description of the Invention**

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Please insert on page 6, after the first paragraph the following:

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(h) BRIEF DESCRIPTION OF THE SEVERAL VIEWS OF THE  
DRAWING(S).  
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Please insert on page 6, in front of the last paragraph, the following:

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(i) DETAILED DESCRIPTION OF THE INVENTION.  
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Please add the following after the claims on a separate page:

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(k) ABSTRACT OF THE DISCLOSURE (commencing on a separate  
sheet).

A radio transmitting or receiving antenna which is physically compact being typically no more than (3) percent of a wavelength in any dimension. The antenna comprises two electrical conducting surfaces (2) and (4) across which radio frequency electric field lines carrying half the power are arranged to cross radio frequency magnetic field lines carrying the remaining half power to thereby synthesize and propagate radio waves. The low impedance coaxial feeder (1) from the transmitter flows through a set of coils (3A) to (3D) wired in parallel and lying in a toroidal shape to create a circular **RF** magnetic field **H** and then enters a low impedance tap on a resonant autotransformer used to connect a high **RF** voltage and create a

curving electromagnetic field  $E$  across the interaction zone in the volume between the upper metal cylinder (4) and the ground plane (1).

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(I) SEQUENCE LISTING (See MPEP § 2424 and 37 CFR 1.821-1.825.

(not applicable)

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